

II. REMARKS

This paper is responsive to the office action dated December 28, 2004. Claims 1 through 6 are now pending in this application.

Claims 1 through 5 were rejected under 35 U.S.C. 103(a) as being unpatentable over Masuda et al., U.S. Patent 5,978,639 (hereinafter Masuda) in view of Badesha et al., U.S. Patent 5,366,772 (hereinafter Badesha) and Cooper et al., U.S. Patent 4,365,042 (hereinafter Cooper). The Applicant respectfully disagrees. Claim 1 of the instant application recites in pertinent part, a process comprising of:

providing a thin layer of elastomeric composition which impregnates, penetrates and anchors to the fibrous fabric material;

applying a thin primer layer of a moisture-curable polyfunctional silicone composition to the thin layer of elastomeric composition and hydrolyzing said silicone composition to form a chemical bond between the elastomeric layer and the hydrolyzed silicone composition; and

applying over the hydrolyzed silicone primer layer a thin outer layer of a heat-curable elastomer polymer which is reactive with the hydrolyzed silicone primer layer to form a chemical bond therewith.

Masuda discloses a transfer member (20a, 20b) with a surface layer (202) on the conductive rubber layer (201). The surface layer (202) in Masuda is made from a resin.

Masuda does not disclose a primer (i.e. intermediate) layer (of any kind) between the outer surface layer of resin and the conductive rubber layer (201). Moreover, Masuda absolutely fails to disclose or suggest a hydrolyzable silicone layer nor any other kind of intermediate layer for chemical bonding between the surface layer (202) and the rubber layer (201).

Badesha discloses a fuser member (1) comprising a supporting substrate (4) and an outer layer (2). In Badesha, there is also no intermediate layer between substrate (4) and outer layer (2). The outer layer in Badesha is an integral interpenetrating hybrid polymeric network comprised of a haloelastomer, a coupling agent, a functional polyorganosiloxane and a crosslinking agent.

The hybrid compound of Badesha is a composition which is comprised of a fluoroelastomer having polyorganosiloxane blocks randomly arranged and attached thereto via an organosilane coupling agent. Interpenetrating network refers to a crosslinked or cured product matrix obtained from curative cross linking of the condensation polymerization product of the aminosilane coupling, the polyorganosiloxane, and the fluoroelastomer where the aminosilane coupled polyorganosiloxane fluoroelastomer polymer strands are intertwined and intermolecularly bonded as a result of the crosslinking with one another.

The outer layer (2) of Badesha is prepared by forming a solvent solution of a haloelastomer compound, a dehydrofluorinating agent, and an amino silane coupling agent to afford an amino silane grafted fluoroelastomer; adding a functionally terminated polyorganosiloxane, an optional tetrafunctional siloxane or silane compound of the formula $\text{Si}(\text{X})_{\text{sub.4}}$ where X is a halogen, hydroxy, or alkoxy group, and an optional acidic catalyst to said solution to condense the polyorganosiloxane with the amino silane grafted fluoroelastomer to afford a polyorganosiloxane coupled amino silane grafted fluoroelastomer. The outer layer (2) is a substantially uniform integral interpenetrating or cross linked network of a hybrid composition of said polyorganosiloxane coupled amino silane grafted fluoroelastomer. This uniform integral layer is applied directly to substrate (4), and no other layer is applied in Badesha over this uniform integral layer (2).

As such, the fuser member (1) of Badesha has only a single outer layer (2) on the support substrate (4). Badesha does not disclose or suggest a thin layer of elastomeric compound on the support substrate (4) nor a primer layer between the thin layer of elastomeric compound and the outer layer (2) that is applied over the chemically bonded primer layer. This is contrary to the features called for in claim 1. Claim 1 calls for:

providing a thin layer of elastomeric composition;

applying a thin primer layer of a moisture-curable polyfunctional silicone composition to the thin layer of elastomeric composition and hydrolyzing said silicone composition to form a chemical bond between the elastomeric layer and the hydrolyzed silicone composition; and

applying over the hydrolyzed silicone primer layer a thin outer layer of a heat-curable elastomer polymer which is reactive with the hydrolyzed silicone primer layer to form a chemical bond therewith.

In contrast, Badesha discloses the application of but the single uniform integral outer layer forming the hybrid polymeric network. Badesha fails to disclose or suggest the features recited in claim 1.

Cooper discloses resinous compositions comprising polyorganosiloxanes which may contain alkoxy groups. Cooper does not suggest or disclose the process of the present application nor the concept of using such compositions as intermediate primer layers to form a chemical bond between a thin layer of elastomeric composition and a thin layer of heat-curable elastomer polymer. In addition, Cooper does not disclose a smooth surface transfuse belt.

Neither Masuda, Badesha or Cooper taken separately or in conjunction discloses or suggests the features recited in claim 1. By way of example, if Masuda and Badesha were combined the result would merely be application of the single uniform integral hybrid polymeric network layer

(from Badesha) over the inner rubber layer (201) in Masuda in lieu of the resinous layer (202) in Masuda. This, however, is still not the same as called for in claim 1. One skilled in the art would simply not be motivated from but the single uniform integral hybrid polymeric network layer disclosed in Badesha to modify Masuda to provide

a thin primer layer of a moisture-curable polyfunctional silicone composition to the thin layer of elastomeric composition and hydrolyzing said silicone composition to form a chemical bond between the elastomeric layer and the hydrolyzed silicone composition; and


applying over the hydrolyzed silicone primer layer a thin outer layer of a heat-curable elastomer polymer which is reactive with the hydrolyzed silicone primer layer to form a chemical bond therewith.

Thus claim 1-6 are patentable over the cited prior art.

For all of the foregoing reasons, it is respectfully submitted that all of the claims now present in the application are clearly novel and patentable over the prior art of record, and are in proper form for allowance. Accordingly, favorable reconsideration and allowance is respectfully requested. Should any unresolved issues remain, the Examiner is invited to call Applicants' attorney at the telephone number indicated below.

Please charge any fee deficiency arising out of the filing of this amendment to Deposit Account Number 16-1350.

Respectfully Submitted,



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3/28/05
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